



CASE CO/2-22210/US/A

**CERTIFICATE OF MAILING**

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*Dolores DeCarmin*  
Signature

*6/23/04*  
Date

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE PATENT NO: 6,737,549 OF

JEAN-PIERRE WOLF ET AL

ISSUED: MAY 18, 2004

APPLICATION NO: 09/871,373

FILED: MAY 31, 2001

FOR: ORGANOMETALLIC

MONOACYLALKYLPHOSPHINES

**Certificate**  
**JUN 30 2004**  
**of Correction**

**Attention: Certificate of Correction Branch**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

**REQUEST FOR CERTIFICATE OF CORRECTION**

Pursuant to 37 CFR 1.322, it is hereby respectfully requested that a Certificate of Correction be issued for United States Patent 6,436,235 containing the corrections set forth on the appended Form PTO 1050.

Each of the following errors are believed to be attributable to the Patent and Trademark Office as is evident from the table on Page 2:

<u>Location and/or Error in Printed Patent</u>	<u>Location of Support</u>
<p><u>Column 88</u>, claim 4, line 1, replacement of "compound of the" with "process for the preparation of bisacylphosphine oxides or sulfides of"</p>	<p>See new claim 19 (now renumbered claim 4) on page 26 of Amendment, dated April 23, 2003.</p>
<p><u>Column 90</u>, line 25, replacement of formula</p>	<p>See second formula on line 13 of page 28 of Amendment, dated April 23, 2003 – continuation of new claim 19 (now renumbered claim 4).</p>
<div style="text-align: center;"> <math display="block">\begin{array}{c} \text{O} \quad \text{(A)}_x \quad \text{O} \\ \parallel \quad \parallel \quad \parallel \\ \text{Ar}-\text{C}-\text{P}-\text{C}-\text{Y}_1 \\   \\ \text{R}_6 \end{array}</math> <p>with</p> <math display="block">\begin{array}{c} \text{O} \quad \text{(A)}_x \quad \text{O} \\ \parallel \quad \parallel \quad \parallel \\ -\text{Y}_2-\text{C}-\text{P}-\text{C}-\text{Ar} \\   \\ \text{R}_6 \end{array}</math> </div>	
<p><u>Column 91</u>, claim 5, line 1 delete the term "new"</p>	<p>See new claim 20 (now renumbered claim 5) on page 29 of Amendment, dated April 23, 2003.</p>

Enclosed are copies of the first page and pages 26, 28 and 29 of Amendment, dated April 23, 2003 showing the correct version.

Attached in duplicate is Form PTO-1050, with at least one copy being suitable for printing.

As will be noted from the prosecution history of the application, these errors were not ascribable to the patentees, However, if it should be determined that the filing of this Request necessitates the payment of any fee, authorization is hereby given to debit patentees Deposit Account No. 03-1935.

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Encls.: Form PTO-1050 (2) and pages 1, 26, 28 and 29 of Amendment, dated April 23, 2003

Date:

**JUN 23 2004**

Respectfully submitted,



Tyler A. Stevenson  
Agent for Applicants  
Reg. No. 46,388

- 2 JUL 2004

$E_1$  is O, S or  $NR_{43}$ ; and

$R_{43}$  is  $C_1$ - $C_8$  alkyl, phenyl or cyclohexyl.

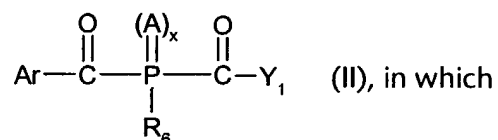
15. (original) A process for the photopolymerization of nonvolatile monomeric, oligomeric or polymeric compounds having at least one ethylenically unsaturated double bond, which comprises irradiating a composition according to claim 12 with light in the range from 200 to 600 nm.

16. (original) A process according to claim 15 for the preparation of pigmented and nonpigmented surface coatings, printing inks, screen printing inks, offset printing inks, flexographic printing inks, powder coatings, printing plates, adhesives, dental materials, optical waveguides, optical switches, colour testing systems, composite materials, gel coats, glass-fibre cable coatings, screen printing stencils, resist materials, colour filters, for the encapsulation of electrical and electronic components, for the preparation of magnetic recording materials, of three-dimensional objects by means of stereolithography, of photographic reproductions, image recording material, for holographic recordings, for the preparation of decolouring materials, for the preparation of image recording materials using microcapsules.

17. (original) A coated substrate which has been coated on at least one surface with a composition according to claim 12.

18. (original) A process for the photographic production of relief images in which a coated substrate according to claim 17 is subjected to imagewise exposure and then the unexposed portions are removed with a solvent.

19. (new) A process for the preparation of bisacylphosphine oxides or sulfides of formula II

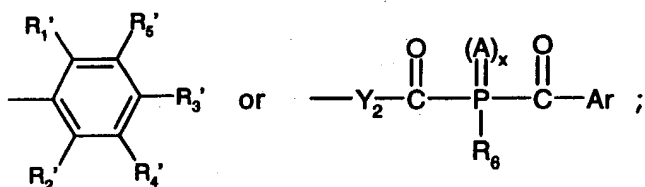


A is O or S;

$R_{11}$  is H,  $C_1$ - $C_{20}$ alkyl,  $C_2$ - $C_{20}$ alkenyl,  $C_3$ - $C_8$ cycloalkyl, phenyl, benzyl or  $C_2$ - $C_{20}$ alkyl which is interrupted once or more than once by nonconsecutive O atoms and which is unsubstituted or substituted by OH and/or SH;

$R_{12}$  and  $R_{13}$  independently of one another are hydrogen,  $C_1$ - $C_{20}$ alkyl,  $C_3$ - $C_8$ cycloalkyl, phenyl, benzyl or  $C_2$ - $C_{20}$ alkyl which is interrupted once or more than once by O or S and which is unsubstituted or substituted by OH and/or SH; or  $R_{12}$  and  $R_{13}$  together are  $C_3$ - $C_3$ alkylene which is uninterrupted or interrupted by O, S or  $NR_{14}$ ;

$Y_1$  is  $C_1$ - $C_{18}$ alkyl which is unsubstituted or substituted by one or more phenyl;  $C_1$ - $C_{18}$ -halogenoalkyl;  $C_2$ - $C_{18}$ alkyl which is interrupted once or more than once by O or S and which can be substituted by OH and/or SH; unsubstituted  $C_3$ - $C_{18}$ cycloalkyl or  $C_3$ - $C_{18}$ cycloalkyl substituted by  $C_1$ - $C_{20}$ alkyl,  $OR_{11}$ ,  $CF_3$  or halogen;  $C_2$ - $C_{18}$ alkenyl; or  $Y_1$  is  $OR_{11}$ ,  $N(R_{12})(R_{13})$  or one of the radicals



or  $Y_1$  is cyclopentyl, cyclohexyl, naphthyl, anthracyl, biphenyl or an O-, S- or N-containing 5- or 6-membered heterocyclic ring, where the radicals cyclopentyl, cyclohexyl, naphthyl, anthracyl, biphenyl and 5- or 6-membered heterocyclic ring are unsubstituted or substituted by halogen,  $C_1$ - $C_4$ alkyl and/or  $C_1$ - $C_4$ alkoxy;

$Y_2$  is a direct bond; unsubstituted or phenyl-substituted  $C_1$ - $C_{18}$ alkylene; unsubstituted  $C_4$ - $C_{18}$ -cycloalkylene or  $C_4$ - $C_{18}$ cycloalkylene substituted by  $C_1$ - $C_{12}$ alkyl,  $OR_{11}$ , halogen and/or phenyl; unsubstituted  $C_5$ - $C_{18}$ cycloalkenylene or  $C_5$ - $C_{18}$ cycloalkenylene substituted by  $C_1$ - $C_{12}$ alkyl,  $OR_{11}$ , halogen and/or phenyl; unsubstituted phenylene or phenylene substituted one to four times by  $C_1$ - $C_{12}$ alkyl,  $OR_{11}$ , halogen,  $-(CO)OR_{14}$ ,  $-(CO)N(R_{12})(R_{13})$  and/or phenyl;

or  $Y_2$  is a radical or , where these radicals are

unsubstituted or are substituted one to four times on one or both aromatic ring(s) by  $C_1$ - $C_{12}$ alkyl,  $OR_{11}$ , halogen and/or phenyl;

$Y_3$  is O, S, SO,  $SO_2$ ,  $CH_2$ ,  $C(CH_3)_2$ ,  $CHCH_3$ ,  $C(CF_3)_2$ , CO or a direct bond;

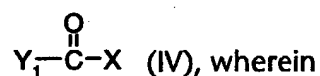
$R_{14}$  is hydrogen, phenyl,  $C_1$ - $C_{12}$ alkyl or  $C_2$ - $C_{12}$ alkyl which is interrupted once or more than once by O or S and which can be substituted by OH and/or SH;

$R_1'$  and  $R_2'$  independently of one another have the same meanings as given for  $R_1$  and  $R_2$ ; and  $R_3'$ ,  $R_4'$  and  $R_5'$  independently of one another have the same meanings as given for  $R_3$ ,  $R_4$  and  $R_5$ ;

or in each case two of the radicals  $R_1'$ ,  $R_2'$ ,  $R_3'$ ,  $R_4'$  and  $R_5'$  together form  $C_1$ - $C_{20}$ alkylene which may be interrupted by O, S or  $-NR_{14}$ ;

with the proviso that  $Y_1$  is not identical to Ar;

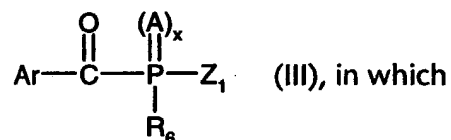
by reacting an alkylacylphosphine compound of formula I according to claim 1 with an acid halide of the formula (IV)



X is Cl or Br;

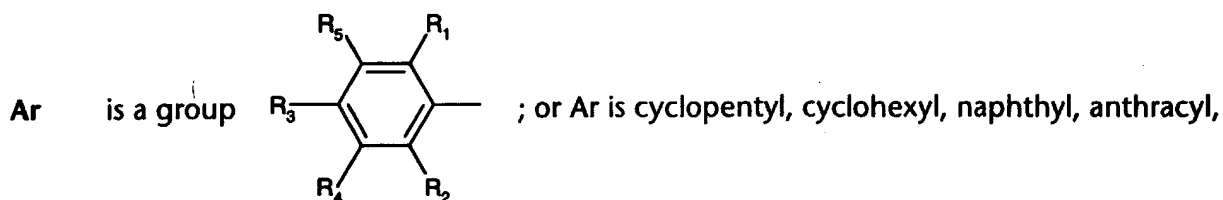
in a molar ratio of about 1:1, optionally in a solvent, at a reaction temperature from about  $-60^\circ\text{C}$  to about  $+120^\circ\text{C}$  to give a phosphine compound of formula II, wherein x is 0, and optionally, subsequent oxidation or sulfurization of the resulting phosphine compound to give the corresponding oxide or sulfide compound wherein x is 1 and A is O or S.

20. (new) A process for the preparation of monoacylphosphine oxides or sulfides of formula III



A is O or S;

x is 0 or 1;



biphenyl or an O-, S- or N-containing 5- or 6-membered heterocyclic ring, where the radicals

UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 6,737,549  
DATED : MAY 18, 2004  
INVENTOR(S) : JEAN-PIERRE WOLF ET AL.

It is certified that there are errors in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

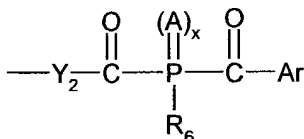
In Column 88

Line 1 of claim 4 should read:

A process for the preparation of Bisacylphosphine oxides or sulfides of Formula II

In Column 90

Line 25 should read:



In Column 91

Delete the term "new" in line 1 of claim 5.

MAILING ADDRESS OF SENDER:

PATENT NO. 6,737,549

(No. of add'l. Copies (3))

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2 JUL 2004